

#4

204250-615200

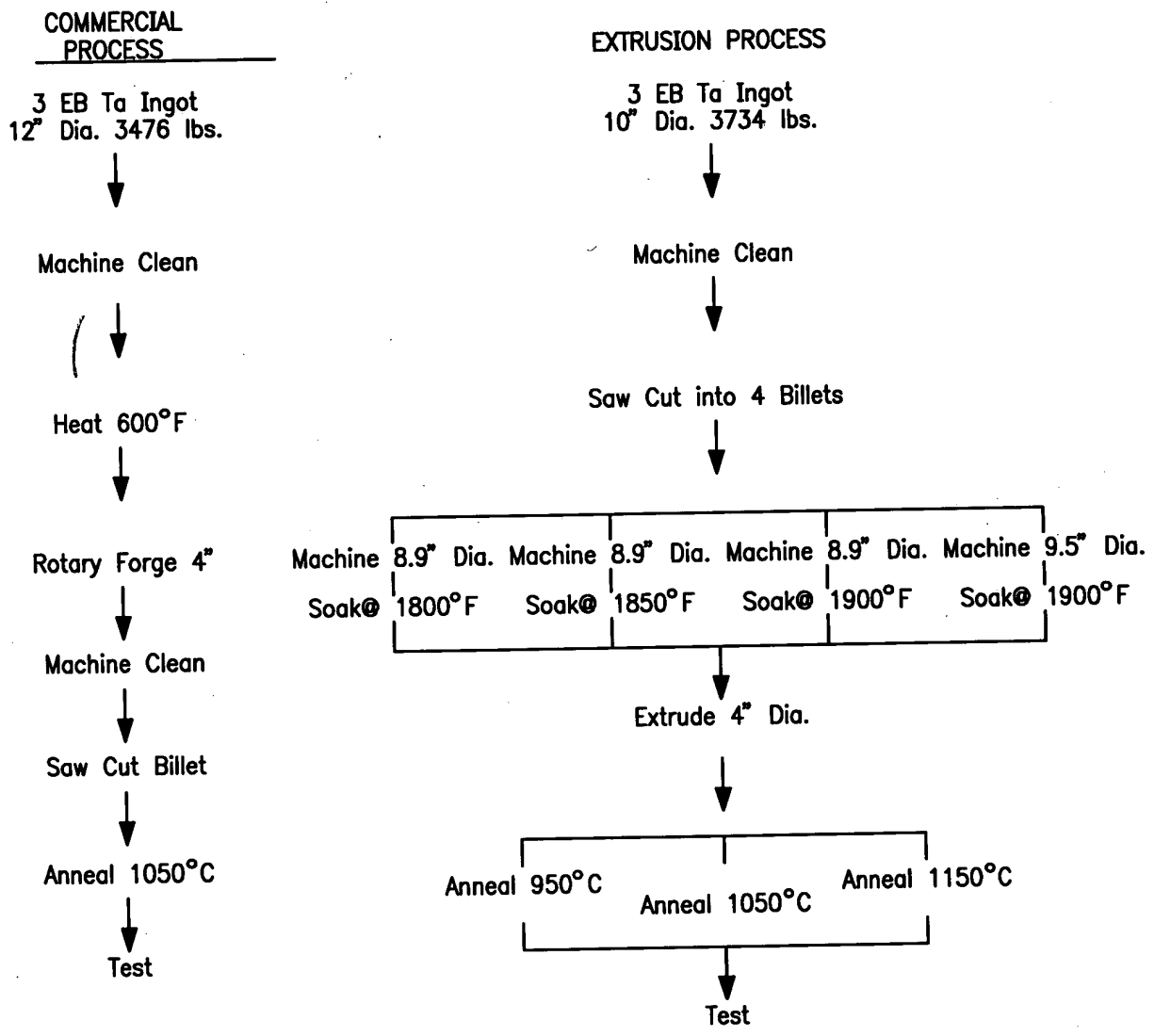


FIG. 1

| PROCESS | 1050°C ANNEAL X 2 HOURS | | | 1150°C ANNEAL X 2 HOURS | | |
|-------------------------------------|--------------------------------------|------------------|-------------------------|--------------------------------------|------------------|-------------------------|
| | Average Grain Size (μm) | Grain Size Range | Recrystallize (Percent) | Average Grain Size (μm) | Grain Size Range | Recrystallize (Percent) |
| Commercial Process | 60 | 20-245 | 76 | | | |
| Commercial Process | 60 | 10-155 | 100 | | | |
| 9.5" \emptyset , Extrude 1800°C | 45 | 10-150 | 95 | 60 | 10-150 | 100 |
| 9.5" \emptyset , Extrude 1800°C | 35 | 10-135 | 100 | 75 | 10-200 | 100 |
| 9.5" \emptyset , Extrude 1850°C | 65 | <10-110 | 100 | 75 | 10-110 | 100 |
| 9.5" \emptyset , Extrude 1850°C | 63 | <10-110 | 100 | 62 | 10-145 | 100 |
| 9.5" \emptyset , Extrude 1900°C | 32 | 10-180 | 100 | 86 | 10-145 | 100 |
| 9.5" \emptyset , Extrude 1900°C | 32 | <10-90 | 99 | 122 | 10-135 | 100 |
| 10.25" \emptyset , Extrude 1900°C | 35 | 10-80 | 99 | 56 | 10-135 | 100 |
| 10.25" \emptyset , Extrude 1900°C | 38 | <10-110 | 100 | 70 | 10-160 | 100 |

FIG. 2(B)

| PROCESS | SAMPLE LOCATION | 950°C ANNEAL X 2 HOURS | | |
|-------------------------------------|-----------------|--------------------------------------|------------------|-------------------------|
| | | Average Grain Size (μm) | Grain Size Range | Recrystallize (Percent) |
| Commercial Process | Center | 46 | <10-240 | 95 |
| Commercial Process | Edge | 40 | <10-250 | 99 |
| 9.5" \emptyset , Extrude 1800°C | Center | 33 | <10-240 | 80 |
| 9.5" \emptyset , Extrude 1800°C | Edge | 35 | 10-290 | 65 |
| 9.5" \emptyset , Extrude 1850°C | Center | 33 | 10-180 | 50 |
| 9.5" \emptyset , Extrude 1850°C | Edge | 35 | <10-225 | 98 |
| 9.5" \emptyset , Extrude 1900°C | Center | 32 | 10-110 | 65 |
| 9.5" \emptyset , Extrude 1900°C | Edge | 28 | <10-200 | 85 |
| 10.25" \emptyset , Extrude 1900°C | Center | | | |
| 10.25" \emptyset , Extrude 1900°C | Edge | | | |

FIG. 2(A)

2014250 6452400T

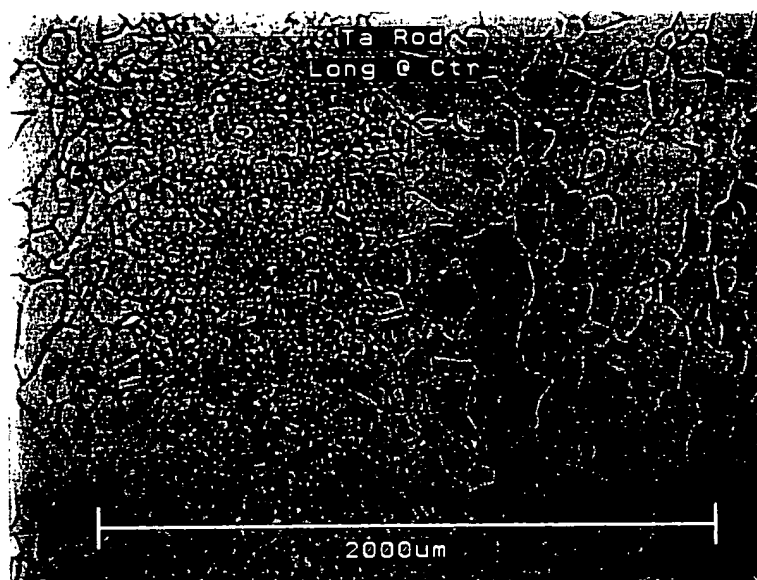


FIG. 3(A)

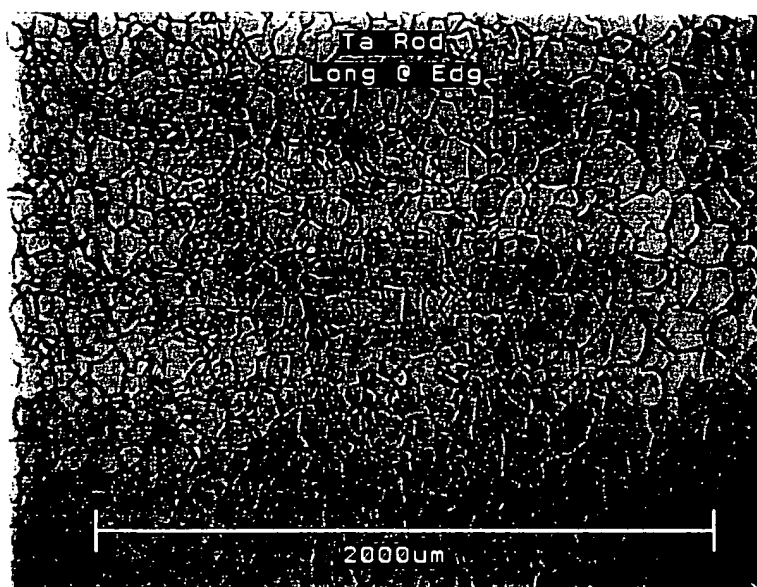


FIG. 3(B)

204250" 64527001

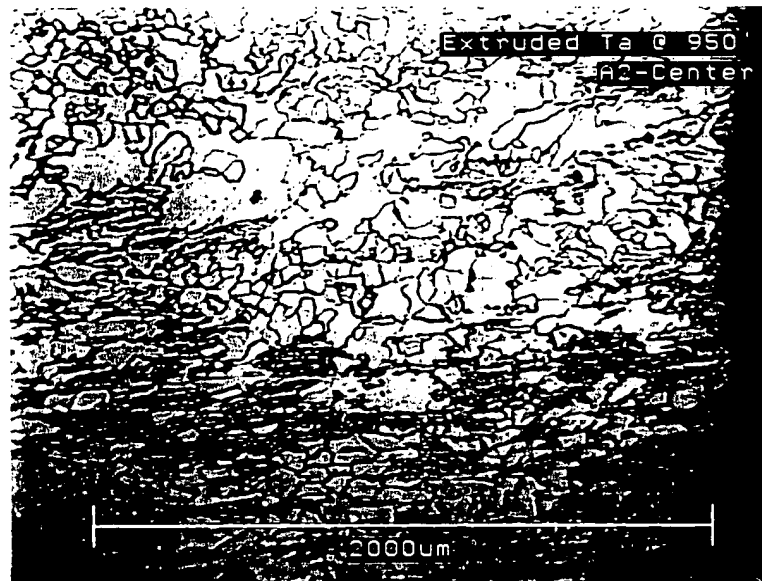


FIG. 4(A)

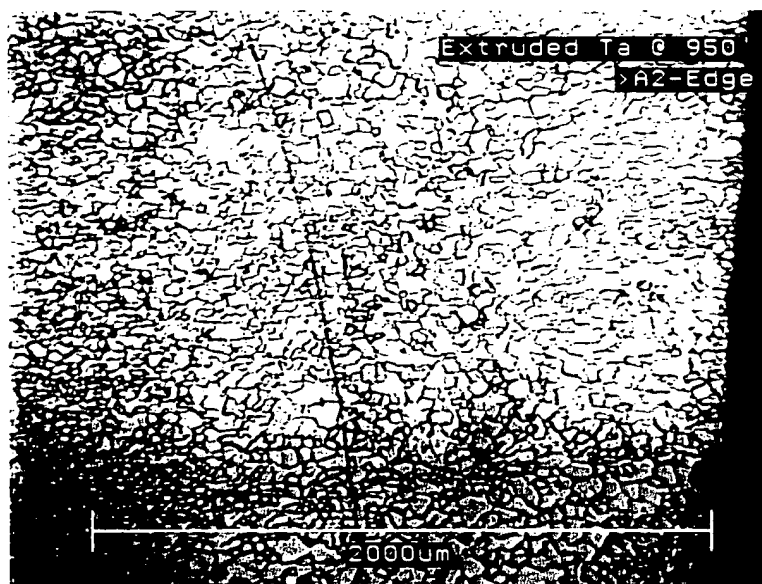


FIG. 4(B)

20100501 07524001

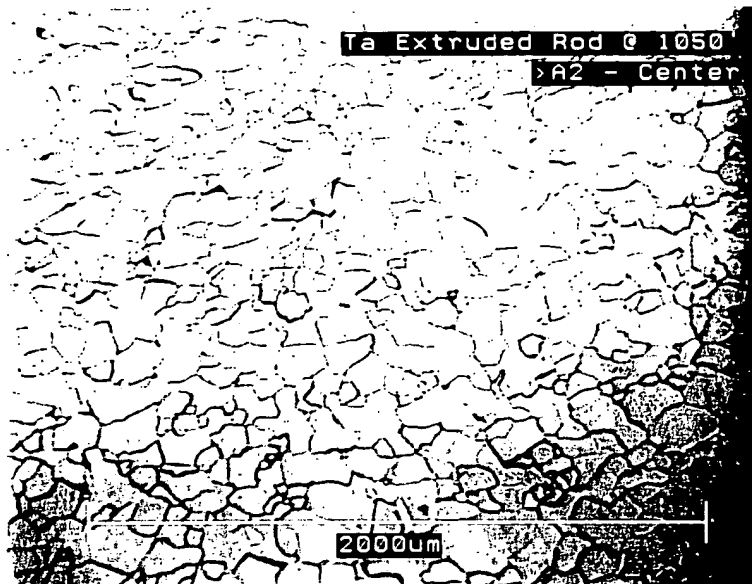


FIG. 5(A)



FIG. 5(B)

201250-61524001

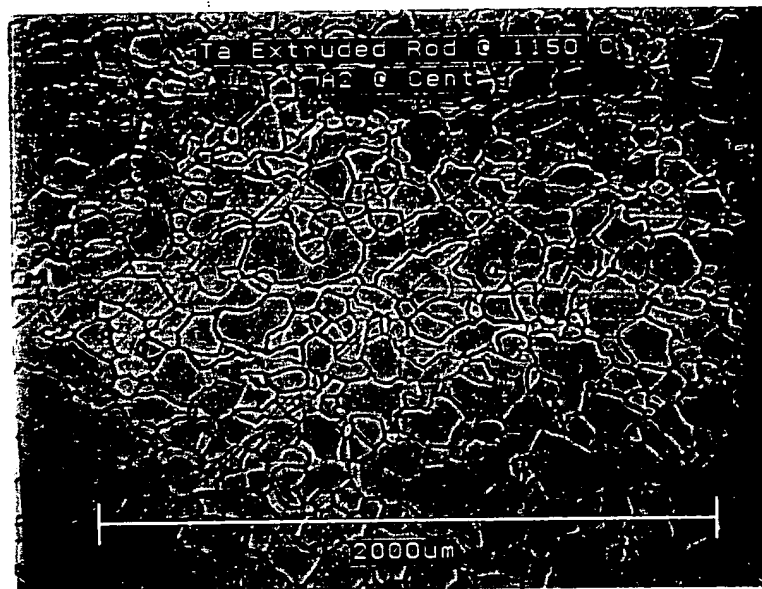


FIG. 6(A)

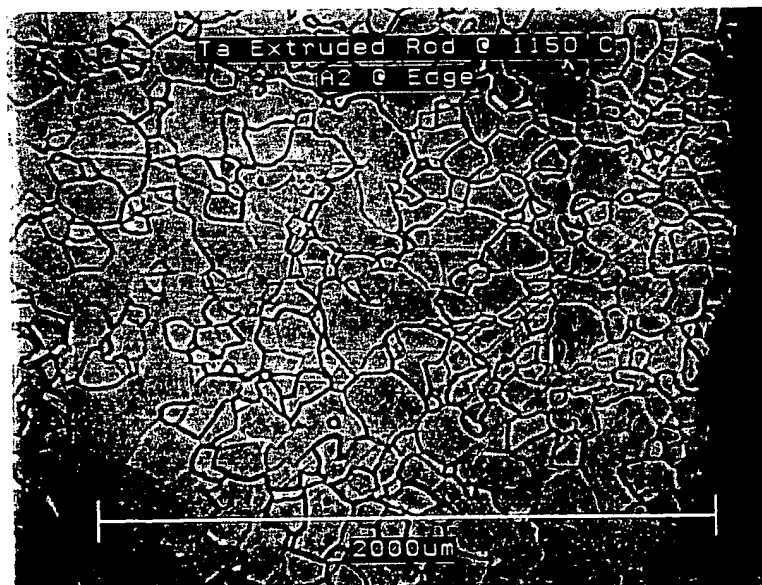


FIG. 6(B)

204250-6452400

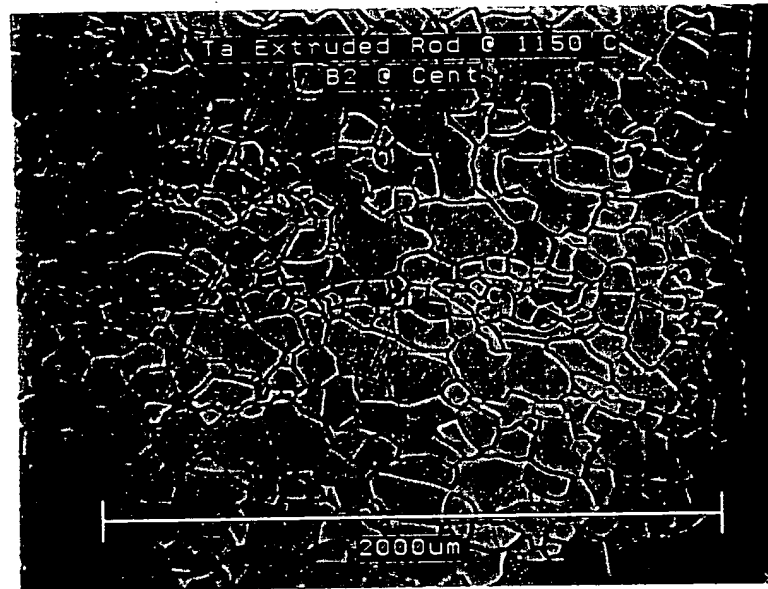


FIG. 7(A)

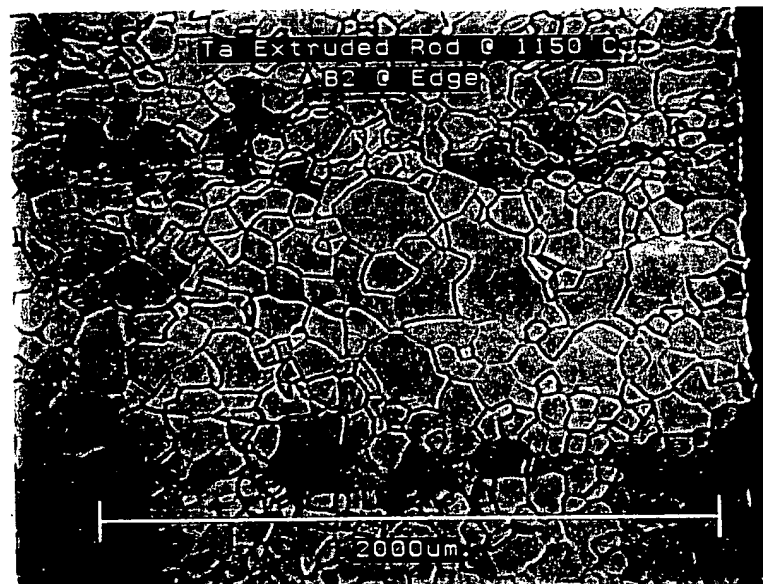


FIG. 7(B)

201250 61221001

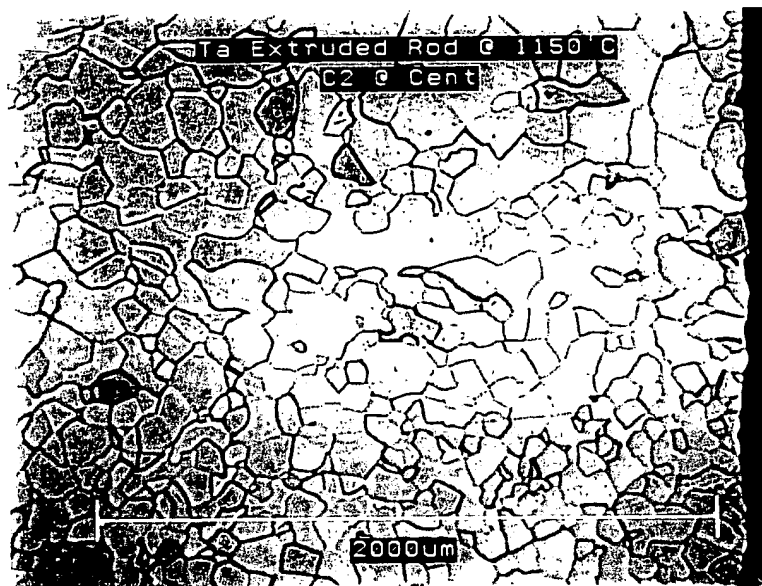


FIG. 8(A)

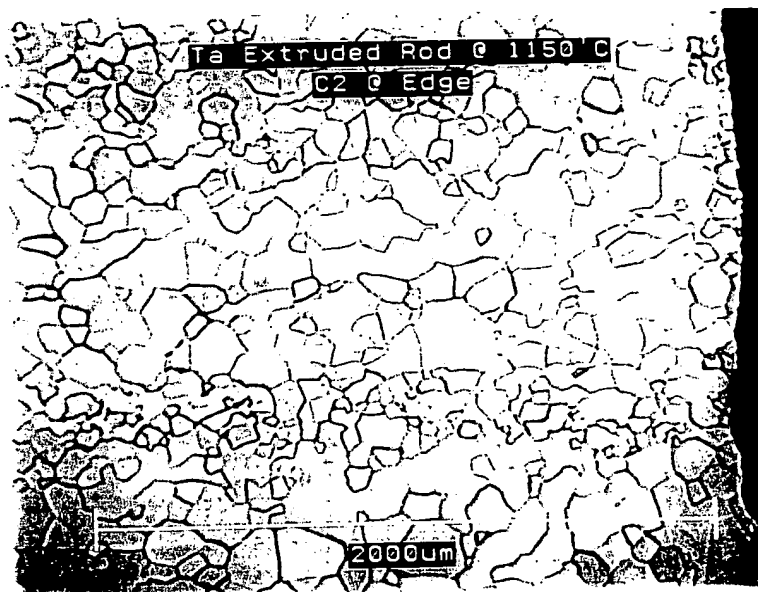


FIG. 8(B)

204250-64524001

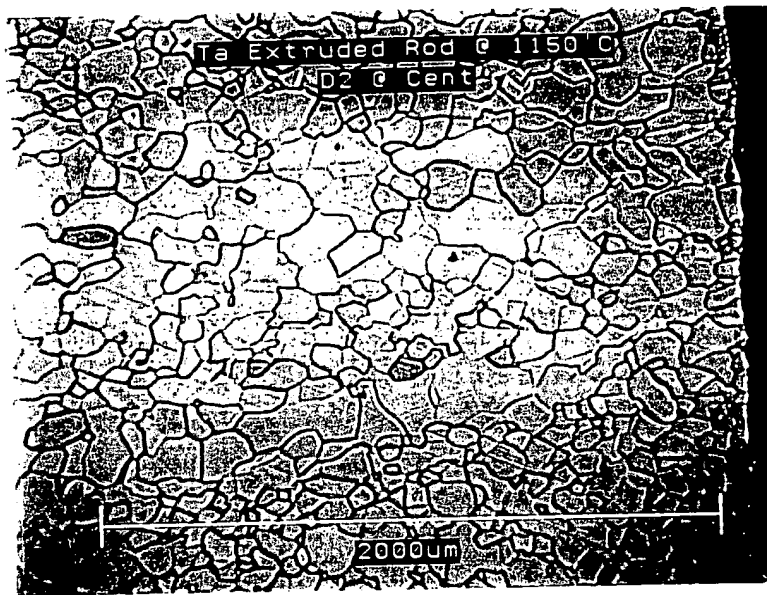


FIG. 9(A)

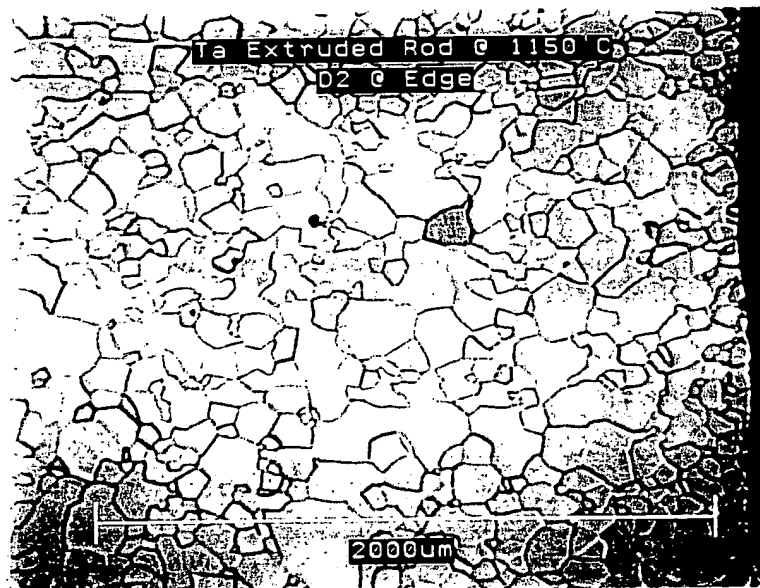


FIG. 9(B)